

Product Change Notification - GBNG-06LXXH156

Date: 11 Dec 2017
Product Category: 8-bit PIC Microcontrollers
Notification subject: CCB 2856 Initial Notice: Qualification of Microchip Fabrication site (FAB 4) for selected Atmel products manufactured with the 59.91K process technology.
Notification text: **PCN Status:**
Initial notification

PCN Type:
Manufacturing Change

Microchip Parts Affected:

Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of Microchip Fabrication site (FAB 4) for selected Atmel products manufactured with the 59.91K process technology.

Pre Change:

Fabricated at UMC5 and TPS5 fabrication sites using 8 inch wafers.

Post Change:

Fabricated at Microchip Fabrication site (FAB 4) using 8 inch wafers.

Pre and Post Change Summary:

	Pre Change		Post Change
	UMC5	TPS5	Microchip Fabrication site (FAB 4)
Fab Site	UMC5	TPS5	Microchip Fabrication site (FAB 4)
Wafer Size	8 inch wafers	8 inch wafers	8 inch wafers
Quality Certification	ISO/TS16949	ISO/TS16949	ISO/TS16949
Design/Layout	No Change	No Change	No Change
Die Size	No Change	No Change	No Change

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on time delivery performance by qualifying Microchip Fabrication site (FAB 4)

Change Implementation Status:

In progress

Estimated Qualification Completion Date:

January 2018

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

Workweek	March 2017				->	January 2018				
	10	11	12	13		01	02	03	04	05
Initial PCN Issue Date		X								
Qualification Report Availability								X		
Final PCN Issue Date								X		

Method to Identify Change:

Traceability code

Qualification Plan:

Please open the attachments included with this PCN labeled as PCN_#_Qual Plan.

Revision History:

March 13, 2017: Issued initial notification.

March 20, 2017: Re-issued the initial notification. Revised the initial PCN by narrowing the scope to affect only the ATMEGA168PB device family manufactured with the 59.91K process technology which is reflected in the subject, description, and the affected parts list.

December 11, 2017: Re-issued the initial notification. Revised the affected parts list and estimated qualification completion date.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):

[PCN_GBNG-06LXXH156_Affected CPN.pdf](#)

[PCN_GBNG-06LXXH156_Qual_Plan.pdf](#)

[PCN_GBNG-06LXXH156_Affected CPN.xlsx](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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QUALIFICATION PLAN SUMMARY

PCN #: GBNG-06LXXH156

Date

February 22, 2017

Qualification of Microchip Fabrication site (FAB 4) for selected Atmel products manufactured with the 59.91K process technology.

Purpose: Qualification of Microchip Fabrication site (FAB 4) for selected Atmel products manufactured with the 59.91K process technology.

CCB No.: 2856

Process Qualification Reliability Test

Qualification Test	#Lots (total)	MCHP QCI39000-er QCI39000-002c	SS/Lot (incl. spares)	Total Sample	Bias Vdd(V)	Temp (°C)	Duration (Hrs or Cyc)	Comments
ELF	3	800	825	2475	5.5	150	48	
HTOL	4	200	210	840	5.5	(125) 150	(1000) 504	AUTO: Read out at -40/25/105
Endurance (read-out @10Kc / 100Kc)	3	77	82	246	5.5	25 85	100Kc	
Data Retention (Package level with 10K pre-cycling)	3	77	82	246	--	25 175	504	
Temperature Cycle	3	77	82	246	--	-65/150	504	
Biased HAST	3	77	82	246	5.5	130/85% (110/85%)	96 (264)	
Unbiased HAST	3	77	82	246	--	130/85% (110/85%)	96 (264)	

Product Qualification Reliability Test

Qualification Test	#Lots (total)	MCHP QCI39000-er QCI39000-002c	SS/Lot (incl. spares)	Total Sample	Bias Vdd(V)	Temp (°C)	Duration (Hrs or Cyc)	Comments
ESD HBM	1	27	30	30	--	25		
ESD MM	1	12	30	30		25		Still required for AVR parts
ESD CDM	1	15	30	30	--	25		
Latch Up - TQFP	1	12	30	30	--	125		

Package Qualification Reliability Test

Qualification Test	#Lots (total)	MCHP QCI39000-er QCI39000-002c	SS/Lot (incl. spares)	Total Sample	Bias Vdd(V)	Temp (°C)	Duration (Hrs or Cyc)	Comments
Solderability	1	15	18	18	--	260	168	
Bond Pull	1	15	18	18	--	25	168	
Ball Bond Shear	1	15	18	18	--	25	168	

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Affected Catalog Part Numbers (CPN)

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Catalog Part Numbers
ATMEGA168-20AUR
ATMEGA168-20MQ
ATMEGA168-20MQR
ATMEGA168-20MUR
ATMEGA168A-AU
ATMEGA168A-AUR
ATMEGA168A-MU
ATMEGA168A-MUR
ATMEGA168P-20AN
ATMEGA168P-20ANR
ATMEGA168P-20AUR
ATMEGA168P-20MQ
ATMEGA168P-20MQR
ATMEGA168P-20MUR
ATMEGA168PA-AN
ATMEGA168PA-ANR
ATMEGA168PA-AU
ATMEGA168PA-AUR
ATMEGA168PA-MN
ATMEGA168PA-MNR
ATMEGA168PA-MU
ATMEGA168PA-MUR
ATMEGA168PB-AN
ATMEGA168PB-ANR
ATMEGA168PB-AU
ATMEGA168PB-AUR
ATMEGA168PB-MN
ATMEGA168PB-MNR
ATMEGA168PB-MU
ATMEGA168PB-MUR
ATMEGA168PV-10AN
ATMEGA168PV-10AUR
ATMEGA168PV-10MUR
ATMEGA168V-10AUR
ATMEGA168V-10MQ
ATMEGA168V-10MQR
ATMEGA168V-10MUR
ATMEGA324PB-AN
ATMEGA324PB-ANR
ATMEGA324PB-AU
ATMEGA324PB-AUR
ATMEGA324PB-MN
ATMEGA324PB-MNR

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Affected Catalog Part Numbers (CPN)

ATMEGA324PB-MU
ATMEGA324PB-MUR
ATMEGA328-AU
ATMEGA328-AUR
ATMEGA328-AURA1
ATMEGA328-MU
ATMEGA328-MUR
ATMEGA328-MURA1
ATMEGA328P-AU
ATMEGA328P-AUA1
ATMEGA328P-AUR
ATMEGA328P-AURA1
ATMEGA328PB-AN
ATMEGA328PB-ANR
ATMEGA328PB-AU
ATMEGA328PB-AUR
ATMEGA328PB-MN
ATMEGA328PB-MNR
ATMEGA328PB-MU
ATMEGA328PB-MUR
ATMEGA328P-MU
ATMEGA328P-MUR
ATMEGA328P-MURA1
ATMEGA48-20AU
ATMEGA48-20MU
ATMEGA48-20MUR
ATMEGA48A-AU
ATMEGA48A-AUR
ATMEGA48A-MU
ATMEGA48A-MUR
ATMEGA48P-20AU
ATMEGA48P-20AUR
ATMEGA48P-20MU
ATMEGA48P-20MUR
ATMEGA48PA-AU
ATMEGA48PA-AUR
ATMEGA48PA-MU
ATMEGA48PA-MUR
ATMEGA48PB-AN
ATMEGA48PB-ANR
ATMEGA48PB-AU
ATMEGA48PB-AUR
ATMEGA48PB-MN
ATMEGA48PB-MNR
ATMEGA48PB-MU

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Affected Catalog Part Numbers (CPN)

ATMEGA48PB-MUR
ATMEGA48PV-10AU
ATMEGA48PV-10AUR
ATMEGA48PV-10MU
ATMEGA48PV-10MUR
ATMEGA48V-10MU
ATMEGA48V-10MUR
ATMEGA88-20AU
ATMEGA88-20MU
ATMEGA88-20MUR
ATMEGA88A-AU
ATMEGA88A-AUR
ATMEGA88A-MU
ATMEGA88A-MUR
ATMEGA88P-20AU
ATMEGA88P-20AUR
ATMEGA88P-20MU
ATMEGA88P-20MUR
ATMEGA88PA-AU
ATMEGA88PA-AUR
ATMEGA88PA-MU
ATMEGA88PA-MUR
ATMEGA88PB-AN
ATMEGA88PB-ANR
ATMEGA88PB-AU
ATMEGA88PB-AUR
ATMEGA88PB-MN
ATMEGA88PB-MNR
ATMEGA88PB-MU
ATMEGA88PB-MUR
ATMEGA88PB-MURB75
ATMEGA88PV-10AU
ATMEGA88PV-10AUR
ATMEGA88PV-10MU
ATMEGA88PV-10MUR
ATMEGA88V-10MU
ATMEGA88V-10MUR
ATTINY1614-SSFR
ATTINY1614-SSNR
ATTINY1616-MFR
ATTINY1616-MNR
ATTINY1616-SFR
ATTINY1616-SNR
ATTINY1617-MFR
ATTINY1617-MNR

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Affected Catalog Part Numbers (CPN)

ATTINY212-SSFR
ATTINY212-SSNR
ATTINY214-SSFR
ATTINY214-SSNR
ATTINY414-SSFR
ATTINY414-SSNR
ATTINY416-MFR
ATTINY416-MNR
ATTINY416-SFR
ATTINY416-SNR
ATTINY417-MFR
ATTINY417-MNR
ATTINY814-SSFR
ATTINY814-SSNR
ATTINY816-MFR
ATTINY816-MNR
ATTINY816-SFR
ATTINY816-SNR
ATTINY817-MFR
ATTINY817-MNR